ABSTRACT

Implementations described herein relate to using a filter engine opcode tree for evaluating multiple queries. The opcode tree includes opcode nodes and branch nodes. Each opcode node includes one or more computer instructions resulting from compiling a query. Executing the opcode tree a single time evaluates each of multiple queries represented in the opcode tree. When a new opcode node is added to the tree, the context of the opcode tree and the structure of the new opcode are taken into account when modifying a branch node or an opcode node. In certain situation, a branch node is optimized to include an indexed lookup function such as a hash function, to optimize processing of opcode nodes that depend from the branch node. Adding and removing nodes to/from the opcode tree can be handled by a filter engine component or by an opcode object being added to/removed from the tree.